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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

STAICOVICI, STEFAN

ART UNIT	PAPER NUMBER
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1732

DATE MAILED: 10/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/623,721

Applicant(s)

BRUSSEL, RICHARD

Examiner

Stefan Staicovici

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 6-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-2, 6-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendment filed July 26, 2006 has been entered. Claims 1-2 and 6-12 are pending in the instant application.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-2 and 6-8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claim 1, lines 16-18, the newly added limitation of "maintaining the endless resin mat between the lower and upper belts until the endless resin mat is ready to be used in a heated molded press" does not appear to have support in the original disclosure because as the endless resin mat passes through the continuous thickening apparatus (14) in a meandering manner the endless resin mat matures and then, it is simply released to be cut by knife (17) (see page 7, ¶ 23-24, and Figure 1 of the original disclosure). Therefore, it does not appear that the newly added limitation has support in the original disclosure. Claims 2 and 6-8 are rejected as dependent claims.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 04-135704 in view of Tamura *et al.* (US Patent No. 4,973,440) and in further view of Nakamura *et al.* (US Patent No. 5,202,071).

JP 04-135704 teaches the basic claimed continuous process of making a sheet molding compound (SMC) in a resin mat apparatus including, providing a lower carrier film (3), depositing a resin filler paste (5) onto said lower carrier film (3), providing an upper carrier film (9), depositing a resin filler paste (11) onto said upper carrier film (9), depositing a reinforcing filler (6) onto said lower carrier film (3), superposing said lower carrier film (3) and said upper carrier film (9) holding said resin filler paste (5, 11) to form a laminate, conveying said laminate through an imbibing and kneading section (12) formed by rollers (13d) and conveying said kneaded laminate through a temperature controlled section (16) (annealing system) in a meandering manner for a predetermined time to thereby age (maturation period) said laminate and form said SMC (see Abstract and Figure 1).

Regarding claims 1 and 6, although JP 04-135704 teaches a resin paste and fiber filler for making a SMC, JP 04-135704 does not specifically teach a thickening agent and glass fibers. However, the use of a thickening agent and glass fibers in the composition of a SMC is well known as evidenced by Tamura *et al.* ('440) who teach a process for making a SMC including

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providing a resin mixture including, thickeners and glass fibers (see col. 4, lines 48-58 and col. 5, lines 13-17). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a thickening agent and glass fibers as taught by Tamura *et al.* ('440) in the resin mixture in the process of JP 04-135704 because, Tamura *et al.* ('440) specifically teach that such is a typical SMC composition, whereby JP 04-135704 teaches a SMC resin paste, hence requiring the teachings of Tamura *et al.* ('440) to function as described and also because of known advantages such as increased strength and improved moldability that such a composition provides.

Further regarding claim 1, although JP 04-135704 teaches upper and lower support films (3, 9), JP 04-135704 does not teach upper and lower belts and, a meandering belt. Tamura *et al.* ('440) teach a process for making a SMC including upper and lower belts (see Figure 1) for supporting upper and lower support films (4a, 4b) and a support belt for transporting the formed SMC. Therefore, it would have been obvious for one of ordinary skill in the art to have provided upper and lower belts and a support belt as taught by Tamura *et al.* ('440) in the process JP 04-135704 because, Tamura *et al.* ('440) teach that such belts provide support for the films forming the SMC, hence providing an improved molded product by reducing wrinkling and sagging of the film due to the weight of the resin paste being applied. It is noted that it is well known to use either belts or a support film in making an SMC in a continuous manner and as such, in view of the teachings of Tamura *et al.* ('440) it would have been obvious for one of ordinary skill in the art to have provided a meandering belt in the annealing system in the process of JP 04-135704 because of known advantages such as improved support of the resulting SMC laminate, ease of

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operation and process control and also because it is well known that belts and support films are equivalent alternatives.

Further regarding claim 1, although JP 04-135704 in view of Tamura *et al.* ('440) teaches a continuous process of making a sheet molding compound (SMC), JP 04-135704 in view of Tamura *et al.* ('440) do not teach cutting the resulting continuous SMC in a specified pattern and compression molding said pattern into a SMC structure. Nakamura *et al.* ('071) teach a continuous process for making a SMC structure including, forming an SMC laminate, controlling the temperature of the resulting SMC as the SMC travels on belt (8) (maintaining the resin mat...until...the resin mat is ready to be used in a heated molding press), cutting the resulting continuous SMC in a specified pattern and compression molding said pattern into a SMC structure in a heated mold (see col. 3, line 46 through col. 4, line 35 and Figure 1). Therefore, it would have been obvious for one of ordinary skill in the art to have continuously cut the resulting continuous SMC in a specified pattern and compression molded said pattern into a SMC structure in a heated mold as taught by Nakamura *et al.* ('071) in the continuous process of JP 04-135704 in view of Tamura *et al.* ('440) because of known advantages that a continuous process provides such as improved productivity, reduced waste and reduced costs by eliminating storage requirements and also because, all references teach similar materials, processes and end-products. Further, it is noted that, because the process of JP 04-135704 in view of Tamura *et al.* ('440) and in further view of Nakamura *et al.* ('071) is a continuous process, then it is submitted that prior to cutting, the resin mat is maintained between the belts until the resin mat is ready to be cut and further molded in the heating press.

In regard to claims 2 and 7, JP 04-135704 teaches conveying said kneaded laminate through a temperature-controlled section (16) (annealing section) in a meandering manner for a predetermined time to thereby age (maturation period) said laminate and form said SMC (see Abstract and Figure 1). It is submitted that the amount of time that the laminate is in contact with the heated rollers of the annealing system (16) depends on the speed of the rollers and the distance traveled between the first roller (15) and the last roller (17) (length of belt supports).

6. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 04-135704 in view of Tamura *et al.* (US Patent No. 4,973,440) and in further view of Nakamura *et al.* (US Patent No. 5,202,071) and Wiercinski *et al.* (US 2003/0083423 A1).

JP 04-135704 in view of Tamura *et al.* ('440) and in further view of Nakamura *et al.* ('071) teaches the basic claimed process as described above.

Regarding claims 8-9 and 11, JP 04-135704 in view of Tamura *et al.* ('440) and in further view of Nakamura *et al.* ('071), JP 04-135704 in view of Tamura *et al.* ('440) and in further view of Nakamura *et al.* ('071) do not teach carrying the endless resin mat without interposing a film between the endless resin mat and the lower or upper belts. However, it is well known to use either belts or a support film in making an SMC in a continuous manner as evidenced by Wiercinski *et al.* (US 2003/0083423 A1) who teach using either a release film or a belt for receiving in a continuous manner the SMC mixture (see ¶ 77). Therefore, it would have been obvious for one of ordinary skill in the art to provide a belt as taught by Wiercinski *et al.* (US 2003/0083423 A1) as an equivalent alternative to the films in the process of JP 04-135704 in view of Tamura *et al.* ('440) and in further view of Nakamura *et al.* ('071) because, Wiercinski

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*et al.* (US 2003/0083423 A1) specifically teach that films and belts are equivalent alternatives for receiving the SMC mixture in a continuous process.

In regard to claim 10, Nakamura *et al.* ('071) teach a continuous process for making a SMC structure including, forming an SMC laminate, controlling the temperature of the resulting SMC as the SMC travels on belt (8) (maintaining the resin mat...until...the resin mat is ready to be used in a heated molding press), cutting the resulting continuous SMC in a specified pattern and compression molding said pattern into a SMC structure in a heated mold (see col. 3, line 46 through col. 4, line 35 and Figure 1). Therefore, it would have been obvious for one of ordinary skill in the art to have continuously cut the resulting continuous SMC in a specified pattern and compression molded said pattern into a SMC structure in a heated mold as taught by Nakamura *et al.* ('071) in the continuous process of JP 04-135704 in view of Tamura *et al.* ('440) and in further view of Wiercinski *et al.* (US 2003/0083423 A1) because of known advantages that a continuous process provides such as improved productivity, reduced waste and reduced costs by eliminating storage requirements and also because, all references teach similar materials, processes and end-products. Further, it is noted that, because the process of JP 04-135704 in view of Tamura *et al.* ('440) and in further view of Nakamura *et al.* ('071) and Wiercinski *et al.* (US 2003/0083423 A1) is a continuous process, then it is submitted that prior to cutting, the resin mat is maintained between the belts until the resin mat is ready to be cut and further molded in the heating press.

Specifically regarding claim 12, JP 04-135704 teaches conveying said kneaded laminate through a temperature-controlled section (16) (annealing section) in a meandering manner for a predetermined time to thereby age (maturation period) said laminate and form said SMC (see



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Abstract and Figure 1). It is submitted that the amount of time that the laminate is in contact with the heated rollers of the annealing system (16) depends on the speed of the rollers and the distance traveled between the first roller (15) and the last roller (17) (length of belt supports).

*Response to Arguments*

7. Applicants' remarks filed July 26, 2006 have been considered.
8. Applicants' arguments are drawn to newly presented claim limitations that have been rejected in this Office Action as set forth above.
9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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*Conclusion*

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (571) 272-1208. The examiner can normally be reached on Monday-Friday 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson, can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stefan Staicovici, PhD

A handwritten signature in black ink, appearing to read 'Stefan Staicovici', written in a cursive style.

Primary Examiner

10/5/06

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October 5, 2006